

Claims:

1. A method for analyzing the quality of a high speed signal comprising:

setting a phase rotator in a first position;

5 initializing a partial value associated to said phase rotator position;

sampling said high speed signal;

XORing said sample and said sample shifted by 1 bit;

10 ORing the result of said XOR operation with partial result associated to said phase rotator position;

replacing the value of said partial result associated to said phase rotator position by the result of said OR operation;

repeating the last four acts during a predetermined time interval;

15 setting said phase rotator in a second position and repeating the last six acts; and

combining said partial results associated to said first and second positions.

2. The method of claim 1 wherein the phase rotator is set to
20 all its possible positions, a partial result being determined for each position of said phase rotator, and the quality of said high speed signal is characterized by the combination of said partial results.

3. The method of either claim 1 or claim 2 wherein combining
25 said partial results comprises:

emptying a value characterizing the quality of said high speed signal, setting a bit position to the number of bits of said partial results and setting a phase rotator position value to the value of the first position reached by said phase rotator;

selecting the bit of the partial result associated to said phase rotator position value, located at said bit position; merging said selected bit to said value characterizing the quality of said high speed signal;

if said selected bit is part of the partial result associated to the last position of said phase rotator,

if said selected bit is the first bit of the partial result, ending said combining step;

else, decreasing said bit position by one, setting said phase rotator position value to the value of the first position reached by said phase rotator and repeating the last four acts; and,

else, increasing said phase rotator position value by one and repeating the last five acts.

4. The method of claims 1 or 2 wherein several hundreds of sampling are done for each position of said phase rotator.

5. The method of claims 1 or 2 further comprising correcting the value characterizing the quality of said high speed signal.

6. The method of claim 5 wherein said correcting said value characterizing the quality of said high speed signal comprises:

if said shifting is a right shifting, suppressing a number n of consecutive bits equal to one, from the right, for each set of consecutive bits equal to one;

5 if said shifting is a left shifting, suppressing a number n of consecutive bits equal to one, from the left, for each set of consecutive bits equal to one,

wherein n is the number of position reached by said phase rotator, minus one.

7. The method of claims 1 or 2 further comprising:

10 replacing value zero by character '-' in the value characterizing the quality of said high speed signal; and
replacing value one by character 'X' in the value characterizing the quality of said high speed signal.

8. The method of claims 1 or 2 further comprising analyzing
15 the behavior of said phase rotator according to said high speed signal.